



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

OPP OFFICIAL RECORD
HEALTH EFFECTS DIVISION
SCIENTIFIC DATA REVIEWS
EPA SERIES 361

MEMORANDUM

Date: 23-OCT-2007

Subject: **Cyprosulfamide.** Section 3 Registration for Use on Corn (Field, Sweet, and Pop). Request for Tolerance Method Validation (TMV).

DP#: 345603

Decision#: 378533

PC Code: 877400

Registration #: 7E7206

40 CFR 180. Xxx

From: William H. Donovan, Ph.D., Chemist
 Reregistration Branch 3 (RRB3)
 Health Effects Division (HED) (7509P)

Through: Catherine Eiden, Branch Chief
 RRB3/HED (7509P)

To: William Chism, Ph.D., Chief
 Analytical Chemistry Laboratory (ACL)
 Biological & Economic Analysis Division (BEAD) (7503P)

Bayer CropScience has submitted a petition for use of the herbicide safener cyprosulfamide on corn (field, sweet, and pop).

In conjunction with this request, Bayer CropScience proposed the establishment of permanent tolerances for the residues of cyprosulfamide *per se* in/on sweet and field corn grain; and for the residues of cyprosulfamide and its metabolites N-cyclopropyl-4-sulfamoylbenzamide (M02), sulfonamide-alanine (M10), and sulfonamide-lactate (M11) all expressed in parent equivalents in or on the corn raw agricultural commodities (RACs) listed in Attachment 1. In addition, Bayer has requested permanent tolerances for cyprosulfamide and its metabolite N-cyclopropyl-4-sulfamoylbenzamide (M02) expressed in parent equivalents in or on the livestock commodities listed in Attachment 1.

To enforce the proposed tolerances on corn RACs, the petitioner proposed a high-performance liquid chromatography (HPLC) with tandem mass spectrometry (MS/MS) method (Method UB-008-P06-01). In addition, to enforce the proposed tolerances on ruminant commodities, including milk, the petitioner proposed a HPLC/MS/MS method (Method UB-006-A06-01). These methods have been adequately validated by the petitioner and had undergone successful independent laboratory validations (ILVs). Adequate radiovalidation has also been received.

The petitioner has submitted a copy of Method UB-008-P06-01 for determination of

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cyprosulfamide and its metabolites in crop matrices (Appendix 1 of MRID 47069733, pages 41-58). A synopsis of Method UB-006-A06-01 is provided for determination of cyprosulfamide and its metabolite N-cyclopropyl-4-sulfamoylbenzamide in/on ruminant commodities, including milk (MRID 47069738, pages 10-11). Additionally, ILVs for both methods are provided as well as the plant method used in Europe and the multiresidue method testing results in the following volumes which are appended to this memorandum as Attachment 5 (CD):

MRID No. 47069733 Timberlake, B.C. 2007. Validation of Bayer CropScience Method UB-008-P06-01 An Analytical Method for the Determination of Residues of AE 0001789 in Crop Matrices Using LC/MS/MS. Unpublished Bayer CropScience Report No.: RAUBP046. 170 pages.

MRID No. 47069734 Ennis, D. and McLean, N. 2007. Independent Laboratory Validation of Bayer Method UB-008-P06-01 "An Analytical Method for the Determination of Residues of AE 0001789 in Crop Matrices Using LC/MS/MS" Unpublished ALS Laboratory Group Report No. 07BAY37.REP. Bayer CropScience Report No.: RAUBP022. 101 pages.

MRID No. 47069735 Billian, P. and Wolters, A. 13 February 2006. Analytical Method 00961 for the Determination of Residues of AE 0001789 and its Metabolites Cyclopropyl-Sulfamoylbanzamide, Sulfonamide-Lactate and Sulfonamide-Alanine in/on Plant matrices by HPLC-MS/MS Using Stable-Labelled Internal Standards. Unpublished Bayer CropScience AG Report Number: MR-124/05. 258 pages.

MRID No. 47069736 Nguyen, T. 15 March 2007. Extraction Efficiency of AE 0001789, AE 2300002, AE 2300003, and AE 0852999 used in the Determination of Residues of AE 0001789 in Plant Matrices. Bayer CropScience Report Number: RAUBP031. 55 pages.

MRID No. 47069738 Ibrahim, A. and Perez, S.R. 16 January 2007. Independent Method Validation of Bayer Method No. UB-006-A06-01. AE 0001789: An Analytical Method for the Determination of AE 0001789 and AE 0852999 in Cattle Biota Using LC-MS/MS and Stable Isotopic Internal Standards. Unpublished Bayer CropScience Report Number: RAUBP025. 45 pages.

MRID No. 47069739 Lam, C.K. 9 March 2007. Radiovalidation of Bayer Method UB-006-A06-01. An Analytical Method for the Determination of AE 0001789 and AE 0852999 in Cattle and Biota Using LC-MS/MS and Stable Isotopic Internal Standards. Unpublished Bayer CropScience Report Number: RAUBP028. 52 pages.

MRID No. 47069744 Pruitt, W.E. 7 March 2007. FDA PAM Multiresidue Method (MRM) Testing for AE 0001789 (Cyprosulfamide) and Three Metabolites. Unpublished Bayer CropScience Report Number: RAUBX010. 72 pages.

RRB3 requests that ACL/BEAD conduct a TMV of the proposed plant and livestock enforcement methods as outlined in Attachments 2 and 3, respectively. All samples (including the controls) should be run in duplicate. Please complete and return these attachments as part of your report, which should make use of the bean sheet provided in Attachment 4. Also, please include in your report all relevant information and supporting documentation concerning the method validation, including modifications which were made, and indicate the suitability of the analytical method for enforcement purposes. Please include the Repository Ordering Code for the reference standards. Since one of the purposes of conducting an in-house PMV is to determine whether all necessary instructions are included in the submitted proposed enforcement

method, your laboratory staff scientists should have minimal contact with the petitioner during the conduct of this trial. Any problems encountered in the method as written should be documented and included in your report. The petitioner will be informed of any deficiencies in the method and asked to resolve them. The RD Product Manager for cyprosulfamide is Karen Angelou. She should be contacted directly (703-306-0404) if you require guidance concerning the priority for initiation/completion of this PMV.

Please address and send your report to Catherine Eiden, Branch Chief, RRB3/HED, 7509P. If you need any further information, please call me at 703-305-7330.

Attachment 1: Proposed tolerances (from Section F of PP# 7E7206)

Attachment 2: Method report form - Plants

Attachment 3: Method report form - Livestock

Attachment 4: Bean sheet for TMV request (DP #: 345604; not available electronically)

Attachment 5: CD containing the following studies: MRID#s 47069733- 47069736, 47069738, 47069739, and 47069744

Attachment 1: Proposed Tolerances (from Section F of PP# 7E7206)

Bayer has requested the establishment of permanent tolerances for cyprosulfamide *per se* in or on the following RACs:

Corn, field, grain	0.01 ppm
Corn, sweet, grain	0.01 ppm
Corn, pop, grain	0.01 ppm

In addition, Bayer has requested permanent tolerances for the combined residues of cyprosulfamide and its metabolites N-cyclopropyl-4-sulfamoylbenzamide (M02), sulfonamide-alanine (M10), and sulfonamide-lactate (M11) all expressed in parent equivalents in or on the following RACs:

Corn, field, forage	0.15 ppm
Corn, field, stover	0.60 ppm
Corn, sweet, forage	0.40 ppm
Corn, sweet, stover	0.60 ppm
Corn, pop, stover	0.60 ppm

In addition, Bayer has requested permanent tolerances for the combined residues of cyprosulfamide and its metabolite N-cyclopropyl-4-sulfamoylbenzamide (M02) expressed in parent equivalents in or on the following livestock commodities:

Milk	0.01 ppm	Hog, fat	0.01 ppm
Cattle, meat	0.01 ppm	Hog, meat byproducts	0.05 ppm
Cattle, fat	0.01 ppm	Sheep, meat	0.01 ppm
Cattle, meat byproducts	0.05 ppm	Sheep, fat	0.01 ppm
Goat, meat	0.01 ppm	Sheep, meat byproducts	0.05 ppm
Goat, fat	0.01 ppm	Horse, meat	0.01 ppm
Goat, meat byproducts	0.05 ppm	Horse, fat	0.01 ppm
Hog, meat	0.01 ppm	Horse, meat byproducts	0.05 ppm

Attachment 2: Method Report Form - Plants

Method UB-008-P06-01 can be found as Appendix 1 (pages 41-62) of the following study:

MRID No. 47069733 Timberlake, B.C. 2007. Validation of Bayer CropScience Method UB-008-P06-01 An Analytical Method for the Determination of Residues of AE 0001789 in Crop Matrices Using LC/MS/MS. Unpublished Bayer CropScience Report No.: RAUBP046. 170 pages.

Please do not use control values for recovery corrections. Please do not report control values as 0.0 ppm; accurately state your limit of detection and note any commodity coextratives that could change the recovery values reported.

Matrix	analyte	Fortification (ppm)	ppm Found	% recovery
Corn, sweet, grain	Cyprosulfamide	0.0		
		0.005		
		0.01		
0.0				
Corn, sweet, forage		0.01		
		0.075		
		0.15		
Corn, sweet, forage	N-cyclopropyl-4-sulfamoylbenzamide (M02)	0.0		
		0.01		
		0.075		
		0.15		
	sulfonamide-alanine (M10)	0.0		
		0.01		
		0.075		
		0.15		
	sulfonamide-lactate (M11)	0.0		
		0.01		
		0.075		
		0.15		

Attachment 3: Method Report Form - Livestock

A synopsis of Method UB-006-A06-01 can be found on pages 10-11 of the following study:

MRID No. 47069738 Ibrahim, A. and Perez, S.R. 16 January 2007. Independent Method Validation of Bayer Method No. UB-006-A06-01. AE 0001789: An Analytical Method for the Determination of AE 0001789 and AE 0852999 in Cattle Biota Using LC-MS/MS and Stable Isotopic Internal Standards. Unpublished Bayer CropScience Report Number: RAUBP025. 45 pages.

Please do not use control values for recovery corrections. Please do not report control values as 0.0 ppm; accurately state your limit of detection and note any commodity coextratives that could change the recovery values reported.

matrix	Analyte	Fortification (ppm)	ppm Found	% recovery
milk	Cyprosulfamide	0.00		
		0.005		
		0.01		
beef liver		0.00		
		0.01		
		0.025		
		0.05		
milk	N-cyclopropyl-4-sulfamoylbenzamide (M02)	0.00		
		0.005		
		0.01		
beef liver		0.00		
		0.01		
		0.025		
		0.05		

Attachment 4: Bean Sheet for TMV Request (DP #: 345604; not available electronically)

Attachment 5: CD containing the following studies: MRID#s 47069733-47069736, 47069738, 47069739, and 47069744.



13544

R154034

Chemical: Cyprosulfamide (approval pending do not use)

PC Code:

877400

HED File Code: 14000 Risk Reviews

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